CD-91-07(LDV/HDE/HDV/MC/ICI/SM)

Dear Manufacturer:

SUBJECT: Solicitation of comments on Proposed EPA Standardized Engine Family and Evaporative Family Names

Enclosed with this letter is a proposal describing a revised EPA standardized engine family name that would be effective for the 1994 model year. The proposal also discusses an EPA standardized evaporative family name. I am issuing this guidance in draft form to give manufacturers an opportunity to comment on the proposal before it becomes final.

Please complete your review of the proposal quickly so that we can support your 1994 certification timing needs. Send your comments to Mr. Eldert Bontekoe by October 20, 1991.

Sincerely,

Robert E. Maxwell, Director
Certification Division
Office of Mobile Sources

Enclosure

0172h

AFMC:BONTEKOE:x442:sk:x581:2565 Plymouth Rd:09/19/91:CB#0172h

EPA Standardized Engine Family Names

EPA requests that manufacturers use a standardized system for identifying individual engine families. Starting with the 1994 model year the standardized engine family name is formatted as follows:

SEE FILE CD9107_1.PCX

First Character	Model Year (see subcodes for model year)
Characters 2 and 3	Letter code for manufacturer (see subcodes for manufacturers)
Characters 4,5,& 6	Displacement in liters (e.g., 5.7 --the decimal point counts as a digit) or cubic inches (e.g., 350). For dual displacement families enter the larger displacement.
Character 7	Vehicle Class (See table)
Character 8	Fuel system and number of valves (See table)
Character 9	Combustion cycle and fuel (See table)
Character 10	Standards (See table)
Character 11	Catalyst, FFS (See table)
Character 12	Emission Conrol Devices (or ICI Production year) (See table)

SUBCODES FOR MODEL YEAR

CODE	YEAR
A	1980
B	1981
C	1982
D	1983
E	1984
F	1985
G	1986
H	1987
J	1988
K	1989
L	1990
M	1991
N	1992
p	1993
R	1994
S	1995
T	1996
V	1997
W	1998
X	1999
Y	2000
1	2001
2	2002
3	2003
4	2004
5	2005
6	2006
7	2007
8	2008
9	2009
A	2010
B	2011
C	2012

SUBCODES FOR MANUFACTURERS

Mfr Code	Manufacturer	Mfr Subcode
10	AMERICAN MOTORS	AM
20	CHRYSLER	CR
30	FORD	FM
40	GENERAL MOTORS	GC
	1G = CPC (Chevrolet, Pontiac, Canada)	
	2G = BOC (Buick, Oldsmobile, Cadillac)	
	3G = Truck	
61	ACS VEHICLE SALES AND SERVICE	A1
62	ADELL IMPORTS	AL
66	RED SHIFT LTD.	A2
68	ARO OF NORTH AMERICA	A4
70	ASTON MARTIN	AS
90	ALFA-LANCIA	AR
96	AMG MOTORENBAU GMBH	AG
98	AURORA CARS	AA
99	AUSTRIAN MOTORS, LTD.	AN
101	AUTOKRAFT LIMITED	AK
103	ASC INC.	A3
108	AUSTIN-ROVER	AW
113	BASIL LEASE CORP.	B2
120	BMW	BM
122	BITTER	BT
124	BENNETT AUTO SALES	BN
127	BERTONE	BE
129	BRAZILIAN IMPORT	BZ
131	B&R WHOLESALE VEHICLES	B1
139	CCC ENGINEERING	CC
154	CLASSIC MOTORWORKS	CW
162	CONSULIER INDUSTRIES INC.	C3
167	CORVETTE AUTO SALES	C1
169	CX AUTOMOTIVE	CX
190	DAIHATSU MOTOR COMPANY LTD.	DH
196	DIAMOND STAR MOTORS	DS
197	DUTCHER MOTORS INC	DT
200	MERCEDES BENZ	MB
202	METRIC MOTORS	MM
203	MUES IMPORT EXPORT	MS
213	EUROCAR INC	EC
217	EUROWEST GRAND PRIX INC	EW
220	FERRARI	FE
222	EVANS AUTOMOBILES	E1
238	FOREIGN TRADE MARKETING INC	F1
246	GRUMMAN ALLIED INDUSTRIES	GR

260	HONDA	HN
263	H T AUTOMOTIVE ENGINEERING	HT
265	HYUNDAI	HY

Mfr Code	Manufacturer	Mfr Subcode
279	INTERNATIONAL MOTORS	NM
290	ISUZU	SZ
305	JAGUAR CARS INC	JC
308	JBA MOTORCARS INC	J1
315	J. M. MOTORS	JM
336	KE INTERNATIONAL AUTO CONSULTANT	K1
338	KIA MOTORS CORPORATION	KM
341	LAMBDA CONTROL SYSTEMS	LB
347	LIPHARDT & ASSOCIATES INC	LP
348	THE LONDON COACH CO., INC.	LC
350	LOTUS	LT
359	MCEVOY MOTORS	MY
360	MASERATI	MA
371	THE NEW AVANTI MOTOR CORP.	NV
372	NORTH AMERICAN IMPORT/EXPORT	NA
376	NORTHEAST OHIO AXLE, INC.	NX
380	NISSAN	NS
395	722196 ONTARIO INC.	N2
402	ORION MOTORS	RN
406	THE PANTHER CAR COMPANY LTD.	PN
410	PEUGEOT	PE
417	PINZGAUER OF AMERICA	PZ
420	PORSCHE	PR
428	PROTON AMERICA, INC.	P1
430	RENAULT	RE
431	PROTOTYPE AUTOMOTIVE SERVICES	P2
439	RAYTON-FISSORE NORTH AMERICA	R1
440	ROLLS-ROYCE	RR
455	RUF AUTOMOBILES INTERNATIONAL	RF
460	LAND ROVER LTD	LR
470	SAAB	SA
481	SHELBY AUTOMOBILES INC	SY
490	MITSUBISHI	MT
491	MITSUBISHI MOTOR SALES AMERICA	M3
495	SATRA	SR
520	EXCALIBUR AUTOMOBILE	EX
537	SUN INTERNATIONAL	SN
540	SUZUKI	SK
543	700 SUNRISE BLVD LEASING INC	7S
545	TEXAS COACH COMPANY	TE
560	MAZDA MOTOR CORP.	TK
570	TOYOTA	TY
576	NEW UNITED MOTOR MFG INC	NT
579	UTILIMASTER CORP. OF AMERICA	Z1
588	VOLGA ASSOCIATED AUTOMOBILE WORK	VA

590	VOLKSWAGEN	VW
595	VILLAGE IMPORTS	VG
600	VOLVO	VV

Mfr Code	Manufacturer	Mfr Subcode
602	VIXEN MOTOR COMPANY	XN
604	THE WAYNE HARRIS GROUP	WH
607	WINDSOR-CONTINENTAL AUTO SALES	WC
614	YUGO AMERICA, INC.	YA
617	ZIMMER	ZM
618	ZAVODI CRVENA ZASTAVA	ZA
620	TVR	TV
640	AUDI	AD
660	FUJI HEAVY IND	FJ
691	LAMBORGHINI	NL
720	WINNEGABO	WB

VEHICLE CLASS

LIGHT DUTY

CODE	DESCRIPTION LVW	ALVW	GVWR	TIER1	TIER 0
V	LDV or CARB's PC				LDV
1	3750	ANY	6000	LDT1	LDT-A-NOx 1.2
2	>3750	ANY	6000	LDT2	LDT-B -NOx 1.7
3	3750	3751-5750	>6000	LDT3	LDT-A-NOx 1.2
4	>3750	3751-5750	>6000	LDT3	LDT-B -NOx 1.7
5	3750	>5750	>6000	LDT4	LDT-A-NOx 1.2
6	>3750	>5750	>6000	LDT4	LDT-B-NOx 1.7

CARB's MEDIUM DUTY

CODE	DESIGNATION	GVWR	ALVW
H	MDT-l	>6000	0-3750
J	MDT-2	>6000	3751-5750
K	MDT-3	>6000	5751-8500
L	MDT-4	>6000	8501-10,000
M	MDT-5	>6000	10,000-14,000

HEAVY DUTY

CODE	USEFUL LIFE	STANDARD	DESCRIPTION
A	LHDE	LIGHT DUTY	OPTION for <10,000 GVWR
B	LHDE	<14K GVWR	Typically GVWR <19.5K, HP 70-170
C	LHDE	>14K GVWR	Typically GVWR <19.5K, HP 70-170
D	MHDE	>14K GVWR	Typically GVWR 19.5K -33K, HP 170-250
E	HHDE	>14K GVWR	Typically GVWR >33K, HP >250
F	URBAN BUS		HHDE Bus
G	HDV		Vehicle Evap Compliance

MOTORCYCLES

CODE	STANDARD	DISPLACEMENT
M	MC -CLASS I	50-169 CC
N	MC-CLASS II	170-279 CC
P	MC -CLASS III	> 280 CC

Miscellaneous

U CARB'S UTILITY ENGINE & LAWN/GARDEN

Fuel Metering and Valves per Cylinder

OPTION 2

CODE	FUEL SYSTEM	VALVES PER CYLINDER
O	Mult. Carb	2 Valves/Cyl
1	1 BBL	2 Valves/Cyl
2	2 BBL	2 Valves/Cyl
3	3 BBL	2 Valves/Cyl
4	4 BBL	2 Valves/Cyl
5	TBI	2 Valves/Cyl
6	Mechanical MPI	2 Valves/Cyl
7	Elec. MPI -simultaneous	2 Valves/Cyl
8	Elec. MPI -sequential	2 Valves/Cyl
9	Central Port Inj.	2 Valves/Cyl
A	Mult. Carb	3 or more Valves/Cyl
B	1 BBL	3 or more Valves/Cyl
C	2 BBL	3 or more Valves/Cyl
D	3 BBL	3 or more Valves/Cyl
E	4 BBL	3 or more Valves/Cyl
F	TBI	3 or more Valves/Cyl
G	Mechanical MPI	3 or more Valves/Cyl
H	Elec. MPI -simultaneous	3 or more Valves/Cyl
J	Elec. MPI -sequential	3 or more Valves/Cyl
K	Central Port Inj.	3 or more Valves/Cyl
Z	Other	

COMBUSTION CYCLE AND FUEL

CODE	CYCLE	FUEL	
G	Otto Cycle (Sl)	Gasoline	Piston
M	Otto Cycle (Sl)	Methonal	Piston
E	Otto Cycle (Sl)	Ethanol	Piston
F	Otto Cycle (Sl)	Flexible Methanol-Gasoline	Piston
N	Otto Cycle (Sl)	Other Flexible	Piston
C	Otto Cycle (Sl)	CNG	Piston
L	Otto Cycle (Sl)	LPG	Piston
R	Otto Cycle (Sl)	Gasoline	Rotary
X	Otto Cycle (Sl)	Other Fuels	Rotary

D Diesel Cycle (Cl) Diesel Fuel
A Diesel Cycle (Cl) Methonal
B Diesel Cycle (Cl) Ethanol
H Diesel Cycle (Cl) Flexible Methanol-Gasoline
J Diesel Cycle (Cl) Other Flexible
K Diesel Cycle (Cl) CNG
P Diesel Cycle (Cl) LPG

2 Two Stroke Cycle Gasoline
3 Two Stroke Cycle Methonal/Ethanol
4 Two Stroke Cycle Diesel
5 Two Stroke Cycle CNG
6 Two Stroke Cycle LPG
7 Two Stroke Cycle Flexible

T	Turbine	Gasoline
Q	Turbine	Diesel
S	Turbine	Methonal/Ethanol
U	Turbine	CNG
V	Turbine	LPG
W	Turbine	Flexible

Y Hybred Electric
Z Electric

STANDARDS

49-STATE AND 50-STATE FAMILIES

CODE	SALES CLASS	HC.	CO & NOx	PM	EVAP	COLD CO	IN USE
A	49 OR 50 STATE	TIER 0	ANY	TIER 0	N		TIER 0
B	49 OR 50 STATE	TIER 0	ANY	TIER 0	Y		TIER 0
C	49 OR 50 STATE	TIER 1	TIER 0	TIER 0	N		TIER 1l
D	49 OR 50 STATE	TIER 1	TIER 0	TIER 0	Y		TIER 1l
E	49 OR 50 STATE	TIER 1	TIER 1	TIER 0	N		TIER 1l
F	49 OR 50 STATE	TIER 1	TIER 1	TIER 0	Y		TIER 1l
G	49 OR 50 STATE	TIER 1	TIER 0	TIER 0	N		TIER 1F
H	49 OR 50 STATE	TIER 1	TIER 0	TIER 0	Y		TIER 1F
J	49 OR 50 STATE	TIER 1	TIER 1	TIER 0	N		TIER 1F
K	49 OR 50 STATE	TIER 1	TIER 1	TIER 0	Y		TIER 1F

L CLEAN FUELS FLEET
M NCP
N AVE OR BANK/TRADE

P-Z (RESERVED)

O (RESERVED)

CALIFORNIA ONLY FAMILIES
1 CARB TIER1
2 CARB TLEV
3 CARB LEV
4 CARB ULEV
5 CARB ZEV (ELECRIC)

Note: Exact standards can usually be determined knowing the class of vehicle
and the year of certification. However, for some years there are more than one standard effective and there are phase-in percentages required. The "standard" in the
above table identifies which standard applies.

Tier 0

LDV, LDT: As defined in regulations
HDE: Standards through 1997
MC: Current Standards

Tier 1

LDV, LDT: As defined in regulations
HDE: 1998 standards and later
MC: Not applicable

CATALYST / OBD

CODE	CATALYST TYPE	MATERIAL	FEDERAL OBD	CARB OBD
A	Ox Cat Only	Any	N	
B	Ox Cat Only	Any	Y	II
C	Reduction Cat	Any	N	
D	Reduction Cat	Any	Y	II
E	3-Way Cat	Ceramic Monolyth	N	
F	3-Way Cat	Ceramic Monolyth	Y	II
G	3-Way Cat	Pellets	N	
H	3-Way Cat	Pellets	Y	II
J	3-Way Cat	Metal	N	
K	3-Way Cat	Metal	Y	II

L	3-Way Cat	Other or Mixed	N	
M	3-Way Cat	Other or Mixed	Y	II
N	3-Way+Ox Cat	Ceramic Monolyth	N	
P	3-Way+Ox Cat	Ceramic Monolyth	Y	II
Q	3-Way+Ox Cat	Pellets	N	
R	3-Way+Ox Cat	Pellets	Y	II
S	3-Way+Ox Cat	Metal	N	
T	3-Way+Ox Cat	Metal	Y	II
U	3-Way+Ox Cat	Other or Mixed	N	
V	3-Way+Ox Cat	Other or Mixed	Y	II
W	Heated Cat	Any	N	
X	Heated Cat	Any	Y	II
Y	No Cat	Any	N	
Z	No Cat	Any	Y	II

CODE	TRAP TYPE	FEDERAL OBD	CARB OBD
1	Trap -Active Regeneration	N	I
2	Trap -Active Regeneration	Y	II
3	Trap-Continous Regeneration	N	I
4	Trap-Continous Regeneration	Y	II
5	Trap-Continous Regeneration + Fuel Add.	N	I
6	Trap-Continous Regeneration + Fuel Add.	Y	II

CODE	DESCRIPTION	FEDERAL OBD	CARB OBD
9	Other	N	I
O	Other	Y	II

EMISSION CONTROL SYSTEM -ICI PROD YEAR

CODES*	
A,B,C	EGR [and other]
D,E,F	EGR + Air [and other]
G,H,J	EGR + T/C or S/C [and other]
K,L,M	EGR + Air + T/C or S/C [and other]
N,P,Q	Air [and other]
R,S,T	Air + T/C or S/C [and other]
U,V,W	T/C [and other]
X,Y,Z	S/C [and other]

6,7	Other Only
8,9	NONE

* First code listed is prefered code, other codes may be selected if necessary to separate engine families that would otherwise be named the same.

FOR ICI's ONLY. USE THE FOLLOWING CODES

5	Production year is 5 years earlier than Cert. MY
4	Production year is 4 years earlier than Cert. MY
3	Production year is 3 years earlier than Cert. MY
2	Production year is 2 years earlier than Cert. MY
1	Production year is 1 year earlier than Cert. MY
O	Production year is same year as Cert. MY

EVAPORATIVE FAMILY NAME

SEE FILE CD9107_2.PCX

Character 1 YEAR: Same as Engine Family

Character 2 & 3 MANUFACTURER: Same as Engine Family

Character 4 VAPOR STORAGE SYSTEM:
1 = Canister
2 = Crankcase
3 = Air Cleaner
4 = Canister & Crankcase
5 = Crankcase & Air Cleaner
6 = Canister & Crankcase & Air Cleaner

Characters 5, 6, & 7 CANISTER WORK CAPACITY: Total Grams (All Cansiters)

Character 8 CANISTER CONFIGURATION:
W= Plastic Housing -Closed Bottom
X= Plastic Housing -Open Bottom
Y = Metal Housing -Closed Bottom
Z= Metal Housing -Open Bottom

Character 9 FUEL SYSTEM: Same as Engine Family

Character 10 FUEL TANK MATERIAL:
M = Metal
P= Plastic

Character 11 PURGE CONTROL:
1 = Controlled
O = Not Controlled

Character 12 SUFFIX: Wildcard (Enter any value)